1-step function machines

1 Whitney makes a pattern of triangles using lolly sticks.

Complete the table.

Number of triangles	1	2	3	4	5	10	
Number of lolly sticks							90

2 Complete the tables.

a)
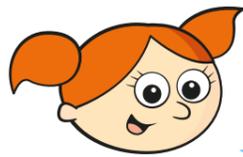
To find the number of wheels, you multiply the number of bicycles by 2

Number of bicycles	1	2	5			16
Number of wheels	2			18	24	

b)

Number of ants	1	2	5			16
Number of legs	6			18	24	

Explain how to find the number of legs.

_____

_____

3 Calculate the outputs for the function machines.

a)
input: 50 → + 5 → output: [ ]

b)
input: 50 → − 7 → output: [ ]

c)
input: 50 → × 2 → output: [ ]

d)
input: 50 → ÷ 10 → output: [ ]
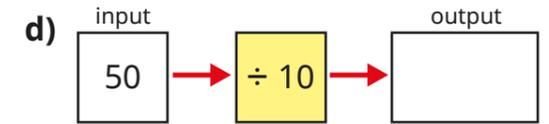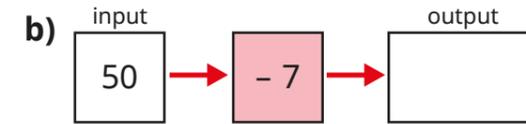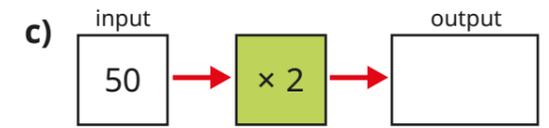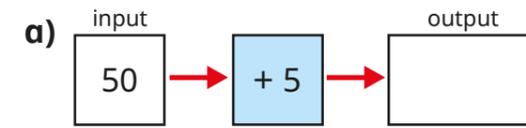
4 Calculate the inputs for the function machines.

a)
input: [ ] → + 9 → output: 45

b)
input: [ ] → − 2 → output: 21

c)
input: [ ] → × 10 → output: 350

d)
input: [ ] → ÷ 3 → output: 9
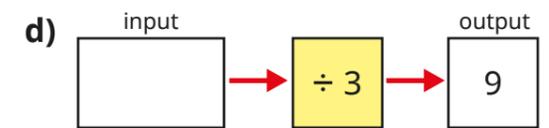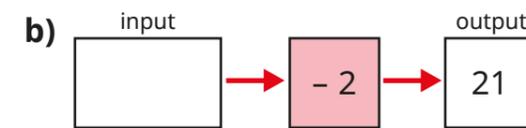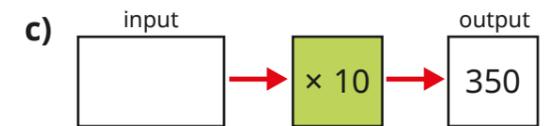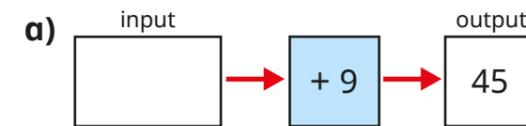
5 Complete the function machine.

input: 8 → + 10 → output: [ ]

input: [ ] → + 10 → output: 14

input: 5.5 → + 10 → output: [ ]

input: [ ] → + 10 → output: 8
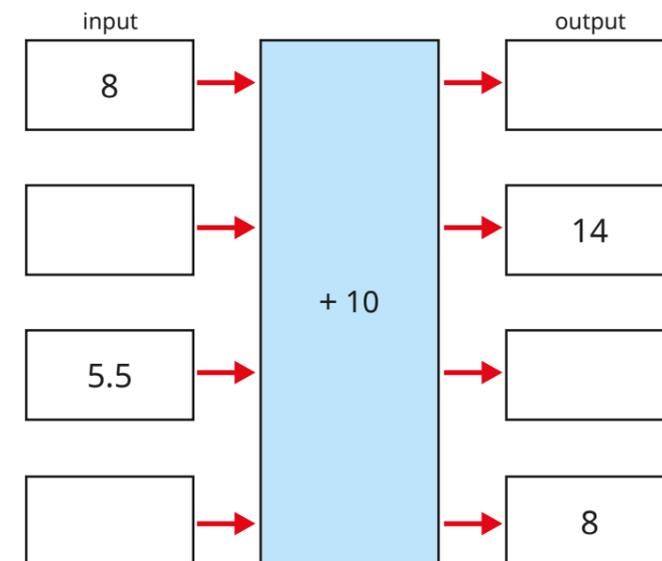
6 Write the missing functions.

a)

input		output
2	→ →	10
5	→ →	25
10	→ →	50

b)

input		output
8	→ →	15
0	→ →	7
–3	→ →	4

7 Here is a function machine.
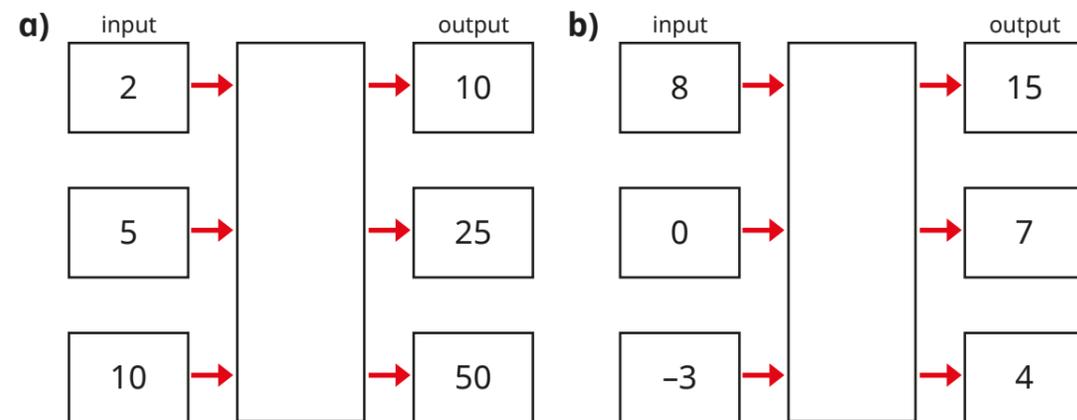
| input		output
15	→ →	65
20	→ →	70
50	→ →	100
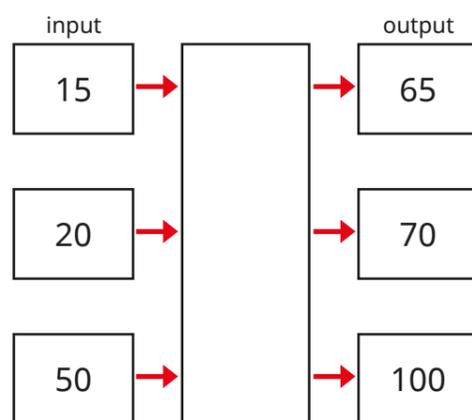
a) What is the output, if the input is zero?

b) What is the input, if the output is zero?

c) If the input is 0.5, what is the output?

d) If the output is 1,000, what is the input?

8 Here is a function machine.
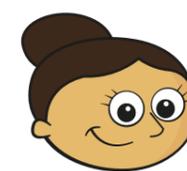
| input		output
6	→ □ →	15

Dora: The rule is add 9

Dexter: The rule is multiply by 2.5

Who do you agree with?

Explain your answer. _____

9 Write two different functions and complete the table of outputs for each function machine.

input		output
3	→ □ →	12

Input	3	4	5	10	20	100
Output	12					

input		output
3	→ □ →	12

Input	3	4	5	10	20	100
Output	12					